REMARKS

In connection with Applicants' Request for Continued Examination (RCE), Applicants respectfully request entry of the foregoing and reexamination and reconsideration of the subject matter identified in caption, as amended, pursuant to and consistent with 37 C.F.R. §1.114, and in light of the remarks which follow.

The specification has been amended to replace the paragraph on page 20, lines 2-6. Support for this amendment is provided in WO 99/07765, which is the published version of PCT/FR98/01800. The current application is a continuation of application No. 09/485533, which was filed as a 371 of international application No. PCT/FR98/01800. A copy of page 18 of WO 99/07765 is enclosed. Line 12 on page 18 of WO 99/07765 indicates that it is the ratio of the dimer units to the total of the isocyanate functions is ≤30%.

Claims 39-51 are present in this application. Claims 1-38 were previously cancelled, without prejudice or disclaimer.

Claims 39 and 40 have been amended to delete the presence of a biuretization catalyst in step ii). Claim 42 has been amended to delete the presence of a biuretization catalyst in step i). Claims 44 and 45 have been amended to recite that the weight ratio of true dimer units/total of isocyanate functions is ≤30%. Support for these amendments is found at least in Examples 4-6 of the specification. Additional information regarding this support is present below in response to the 35 U.S.C. §112, first paragraph rejection. Claims 50 and 51 have been added. These claims are analogous to claims 39 and 40 and require in step ii) that the reaction

mixture is heated in the absence of a dimerization catalyst. Support for these new claims is found in the specification at page 22, line 27 to page 24, line 1.

No new matter has been introduced as a result of the foregoing amendments.

Objection as new matter under 35 U.S.C. §132(a)

The Examiner has objected to the amendment of the specification at page 20, lines 2-6 in the last Office Action as introducing new matter and has required the cancellation of the new matter in this Office Action.

In reviewing the Examiner's objection, Applicants' have discovered that the translation of the original application PCT/FR98/01800, published as WO 99/07765, to English was not correct in that it did not recite that the ratio of the dimer was to the total isocyanate functions. Therefore Applicants submitted that the current amendment to the specification does not contain new matter as there is basis for the amendment in the original application from which the current application depends.

Applicants request that this objection be withdrawn.

35 U.S.C. §112, second paragraph rejection

Claims 44-49 have been rejected under 35 U.S.C. §112, second paragraph as failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention.

The Examiner has alleged the specification of the ratio of true dimer units to isocyanate functions as a percent value renders the claims indefinite, because it is unclear how to correlate the percent value to the ratio. The Examiner has indicated that it is unclear if the 30% value represents 30 parts true dimer to 70 parts

isocyanate functions [30/(30 + 70)) * 100], representing a true percent calculation, or 30 parts true dimer to 100 parts isocyanate functions [30:100] representing a ratio. The Examiner has indicated that it is not clear from the specification that the basis is the total weight of all isocyanate functions in the composition. The Examiner has also indicated that it is not clear what constitutes isocyanate functions, because it is not clear if the language refers to isocyanate groups or isocyanate compounds.

Amended claims 44 and 45 recite the weight ratio of true dimer units/total of isocyanate functions is ≤30%. This is the true percent calculation as referred to by the Examiner in the Office Action, where the 30% value represents 30 parts true dimer to 70 parts isocyanate functions [30/(30 + 70)) * 100]. Applicants refer the Examiner to the amended specification, as described above, and Examples 4-6. Example 4, Table 3 (page 34), right column, where in the product recovered, the dimer is 14.2% by weight of the total weight of species with isocyanate functions, i.e. 14.2% dimer represents 14.2 g of dimer over a total of (0.5 + 0.8 + 14.2 + 56.3 + 20.6 + 7.6) = 100 g of compounds with isocyanate functions. Similar results are shown in Examples 5 and 6. Applicants also refer the Examiner to page 32, lines 2-3, which states that all percentages are given by weight, unless otherwise indicated.

Therefore the claims in this application are not indefinite because the disclosure particularly points out and distinctly claim the subject matter which the applicant regards as the invention as required by 35 U.S.C. 112, second paragraph.

Applicants therefore request the withdrawal of the rejection of the claims under 35 U.S.C. §112, second paragraph.

35 U.S.C. §112, first paragraph rejections

1. Claims 39-43 have been rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner alleges that the claim(s) contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the invention was filed, had possession of the claimed invention.

The Examiner has indicated that adequate support has not been provided for the amendment pertaining to "a biuretization catalyst". The Examiner has indicated that the applicants have not established that the disclosed (cyclo)trimerization or (cyclo)condensation catalysts correspond to or encompass the claimed biuretization catalyst.

Claims 39 and 40 have been amended to delete the presence of a biuretization catalyst in step ii).

Therefore the claims in this application are enabled because the disclosure meets the enablement requirements of 35 U.S.C. 112, first paragraph because the specification allows the skilled artisan to practice the claimed invention without undue experimentation.

Applicants therefore request the withdrawal of the rejection of the claims 39-43 under 35 U.S.C. §112, first paragraph.

2. Claims 44-49 have been rejected under 35 U.S.C. §112, first paragraph as failing to comply with the written description requirement. The Examiner has indicated that the claim(s) contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art

that the inventor(s), at the time the invention was filed, had possession of the claimed invention.

Applicants have provided a detailed description above under 35 U.S.C. §112, second paragraph as to how to interpret the percent value as it pertains to the ratio. The ratio is the weight ratio of true dimer units to the total weight of units with isocyanate functions. This is the true percent calculation, as referred to by the Examiner in the Office Action, where the 30% value represents 30 parts true dimer to 70 parts isocyanate functions [30/(30 + 70)) * 100].

Applicants therefore request the withdrawal of the rejection of the claims 44-49 under 35 U.S.C. §112, first paragraph.

Applicants respectfully submit that all of the claims now in the application are in position for allowance.

Respectfully submitted,

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Enclosure: page 18 of WO 99/07765

fonctionnalité supérieure à deux et un dimère isocyanate à cycle uretidine dione, possédant au moins deux fonctions isocyanates, ce dernier étant obtenu par une réaction thermique en l'absence de catalyseur spécifique de dimérisation, éventuellement en présence d'un composé de formule générale I, II et/ou III.

Dans les compositions de l'invention, on constate par ailleurs que la quantité de dimère formé est en équilibre avec les autres molécules polyisocyanates de la composition. La composition isocyanate est donc stable au cours du temps et ne nécessite pas de rectification régulière pour éliminer les monomères qui seraient formés par dissociation du dimère.

En particulier, la stabilité est d'autant meilleure que les conditions suivantes sont respectées pour la composition :

- motifs dimères vrais total des fonctions isocyanates ≤ 30 %

Avantageusement ce rapport est inférieur à 15 %, de préférence inférieur à 12 % (masse/masse).

Il est de préférence supérieur à 3,5 %, avantageusement 5 % dans le cas des isocyanurates.

Les dimères vrais sont les composés de formule générale X ci-dessus.

L'intérêt des procédés de préparation de compositions d'isocyanates polyfonctionnels de l'invention réside également en ce qu'ils ne nécessitent qu'une seule opération d'élimination des monomères de départ, pour obtenir une composition d'isocyanates polyfonctionnels de basse viscosité.

Un autre avantage du procédé de l'invention est qu'il permet d'augmenter le taux de transformation des monomères pour des viscosités relativement faibles.

De manière typique, pour un taux de transformation de 53%, la viscosité d'une composition comprenant 37 % de trimères vrais d'HDI (à un seul cycle isocyanurate) et 6,6% de dimères vrais (à un seul cycle urétidinedione) d'HDI est de 4694 mPa.s à 25°C, avec une fonctionnalité moyenne de 3,7.

Le procédé selon l'invention permet d'obtenir des produits de plus haute fonctionnalité avec des taux de transformation des monomères élevés tout en gardant des viscosités réduites.